Current Clinical Program Portfolio

Jun-18

Award		gram Por		1	Jun-18		Funding	Therapeutic	1	T	1	1	Projected	Percent
Number, PI,					General Disease	General Class	(ICOC	Cell (for Cell				Award	Award End	Time Into
Institution	Program	Trial Stage	Indication	Therapeutic	Area	of Approach	Approved)	Therapy)	Cell Source	Rationale	Project Goal	Start Date	Date	Award
EURO THERAI							,,,				.,			
	orders: Injurie													
icui ologic Dis	oracis. Injurie	,								Up to 12,000 Americans suffer a spinal cord injury each year. Leads to a				
										high level of permanent disability and decreased life expectancy.				
										Currently no approved therapies. Cells derived from embryonic stem cells				
SP3A-07552										used to heal the spinal cord at the site of injury. The stem cells mature				
Lebkowski,										into oligodendrocyte precursors that are injected at the injury site where				
Asterias	Strategic			Allogeneic oligodendrocyte				Oligodendrocyte		it's hoped they repair the myelin that protects the nerves in the spinal	Safety. Dosing. Efficacy -			
Biotherapeutics	Partnership III	Ph 1/2a	Spinal Cord Injury	progenitors	Neurologic Injury	Cell Therapy	\$14,323,318	Progenitors	Allogeneic	cord.	motor improvement.	10/1/14	9/30/18	
											Safety and efficacy compared			
										Stroke is a major cause of long-term disability and there are no proven	to sham surgery -			
CLIN2-10344	Clinical Trial			A de d'Condition of the condition of						medical treatments for chronic stroke. Intracerebral delivery of modified				
Bates, SanBio	Stage Projects	Ph 2b	Ischemic Stroke	Modified bone marrow-derived mesenchymal stem cells (MSCs)	Neurologic Injury	Cell Therapy	\$19,998,580	MSC	Allogeneic	MSCs provides a well tolerated treament with the potential to improve motor function in these patients	activity on stroke affected side.	8/1/17	6/30/20	
Bates, Salibio	Stage Projects	PII ZU	ischemic stroke	mesenchymai stem cells (IVISCS)	Neurologic injury	Cell Therapy	\$19,996,560	IVISC	Allogeneic	Stroke is the leading cause of adult disability. There is no medical therapy		6/1/17	0/30/20	
CLIN1-09433	Late Stage									that promotes stroke recovery. Cells derived from H9 ESC act via				
Steinberg,	Preclinical			H9 ESC-derived neural stem				NSC or NPC (ESC-		secretion of paracrine factors to modulate brain repair processes in				
Stanford	Projects	IND	Ischemic Stroke	cells	Neurologic Injury	Cell Therapy	\$5,300,000	derived)	Allogeneic	preclinical stroke models.	Obtain an active IND	8/1/17	7/31/19	
Neurologic Dis		dogonorativo			,,	,	+-,,					-,-,-:	.,,	
reurologic Dis	Disease Team	uegenerative							1			1		
DR2A-05320,	Therapy									ALS is a devastating disease with no cure. This cell therapy intends to				
CLIN2-09284	Development,			Allogeneic neural progenitor		Genetically				support sick motor neurons via astrocyte replacement and pro-survival				
Svendsen, Cedars-	Clinical Trial		ALS (Amyotrophic	cells genetically modified with	Neurodegenerative	Modified Cell	\$17,842,617,			growth factors. Allogeneic neural stem cells, genetically modified to	Safety. Dosing. Efficacy -			
Sinai	Stage Projects	Ph 1/2a	lateral sclerosis)	GDNF	Disorder	Therapy	\$6,154,067	NSC or NPC	Allogeneic	express GDNF, injected into the spinal cord.	Lower limb strength	4/1/17	3/31/20	
										ALS is a fatal neurodegenerative disease for which there is currently no				
										adequate treatment. Autologous MSCs are propagated ex vivo and				
				Autologous MSCs cultured to						induced to secrete neurotrophic factors. NurOwn cells are returned to				
CLIN2-09894	Clinical Trial		ALS (Amyotrophic	enhance secretion of growth	Neurodegenerative					the patients in the target area of damage. Previous trials showed safety	Safety and efficacy of three	0 /1 /1=	= (0.1 (1.0	
ern, Brainstorm	Stage Projects	Ph 3	lateral sclerosis)	factors (NurOwn)	Disorder	Cell Therapy	\$15,912,390	MSC	Autologous	and encouraging signs of efficacy.	repeated doses.	8/1/17	7/31/19	
ye Disease							I		1	I a control of the second of t		ı		
	Duane Roth									Age-related macular degeneration is a progressive disease resulting in				
	Duane Roth Disease Team									death of the retinal pigment epithelium (RPE) causing distortion to				
	Therapy			Allogeneic functionally polarized						central vision and eventually to legal blindness. Incidence - 1:1359 in the US. Approach is replacement therapy with viable RPE cells delivered on a	Cafatu Efficacu alau disassa			
DR3-07438	Development		Adult Macular	hESC-derived RPE monolayers		Cell Therapy,				synthetic membrane mimicking native state with RPE cells on Bruch's	progression, maintain and			
Humayun, USC	III	Ph 1	Degeneration	on synthetic substrate	Eye Disease	Combination	\$18,922,665	RPE	Allogeneic	membrane.	restore visual acuity	8/1/14	3/31/19	
Trumayun, osc		11112	Degeneration	on synthetic substrate	Lyc Discuse	Combination	\$10,522,005	ME	Allogeriele	Retinitis pigmentosa (RP) is a progressive retinal degeneration that	restore visual acuity	0/1/14	3/31/13	
										affects over 1.5 million people worldwide. Unfortunately, treatment is				
										still rather limited. A single sub-retinal injection of human neural				
										progenitor cells offers dramatic preservation of vision. Grafted Cells				
LSP1-0835	Late Stage									survive for an extended period, secrete pro-survival factors and				
Wang, Cedars-	Preclinical			Subretinal injection of human						extracellular matrix, reduce oxidative stress response and preserve vision				
Sinai	Projects	IND	Retinitis Pigmentosa	neural progenitor cells	Eye Disease	Cell Therapy	\$4,954,514	NPC	Allogeneic	and RPE integrity.	Obtain an active IND	8/1/15	9/30/17	
										Retinitis pigmentosa (RP) is a severe form of blindness that runs in				
DR2A-05739	Disease Team									families with an incidence of 1:4000. Good target for stem cell therapy				
Klassen, UC	Therapy			Allogeneic retinal progenitor						due to the defined loss of specific cells. Proposed mechanism: Rescue the				
Irvine	Development	IND, Ph 1/2a	Retinitis Pigmentosa	cells	Eye Disease	Cell Therapy	\$17,306,668	RPC	Allogeneic	light sensing photoreceptors.	acuity.	1/1/13	12/31/17	
CLIN2-09698	Clinical Trial			Allogopoic rotine!						Follow on study based on Phase 1/2s elisiant trial. Continue to	Safety and efficacy - improvement in visual			
	Stage Projects	Ph 2b	Retinitis Pigmentosa	Allogeneic retinal progenitor cells	Eye Disease	Cell Therapy	\$8,295,750	RPC	Allogeneic	Follow-on study based on Phase 1/2a clinical trial. Continue to assess safety and establish efficacy.	function at 12 months.	2/1/17	1/31/21	
Klassen, Jcyte	stage Projects	PII ZU	neuillus rigilientosa	cens	cye Disease	сен тпетару	\$6,295,75U	RPC	AllogerielC	Limbal stem cell deficiency results in inability to heal following ocular	runction at 12 months.	2/1/1/	1/31/21	
				Cultivated autologous human		1				surface injury leading to corneal opacity. Cultivated autologous limbal				
CLIN1-08686	Clinical Trial			limbal stem cells on human		1				stem cells transplanted back to the patient allow restoration and				
Deng, UCLA	Stage Projects	IND	Corneal Blindness	amniotic membrane	Eye Disease	Cell Therapy	\$4,244,211	LSC	Autologous	maintenance of a normal corneal surface.	Obtain an active IND	8/1/16	11/30/18	
BLOOD & CANO	CER THERAPFII	TICS												
Blood Disorder														
JIOOU DISUIUEI	,									Untreated alpha thalassemia major is almost universally fatal in utero.				
										Current treatment requires in utero blood transfusions and monthly				
						1				blood transfusions for life or a bone marrow transplant if a suitable donor				
										is identified. The proposed treatment is a maternal bone marrow				
CLIN2-09183	Clinical Trial		Alpha Thalassemia	Maternal bone marrow derived		1				transplant in utero that takes advantage of maternal-fetal immune				
Mackenzie, UCSF	Stage Projects	Ph1	Major	HSC transplant in utero	Blood Disorder	Cell Therapy	\$12,131,817	HSC	Allogeneic	tolerance, and may provide a definitive cure.	Safety and feasibility, efficacy.	8/1/17	7/31/22	
					-				1			1		
				Lentiviral vector modified		1				CGD prevents white blood cells from killing foreign invaders. Patients				
				autologous CD34+						have persistent, untreatable tissue infections. Affects 1:200,000 in US.				
			X-linked Chronic	hematopoietic stem/progenitor		Genetically				Usually diagnosed before age 5, without treatment children die before	Primary: Safety and Efficacy.			
CLIN2-08231	Clinical Trial Stage Projects	Ph 1/2	Granulomatous Disease.	cells via transplantation &		Modified Cell				age 10. Project plan is transplantation of severe X-CGD patients that lack				
Kohn UCLA				engraftment	Blood Disorder	Therapy	\$7,402,549	HSC	I Autologous	matched donors using gene-corrected autologous HSCT.	immune function	9/1/15	8/31/20	

											_			
										An inherited mutation in the hemoglobin gene causes red blood cells to				
										"sickle" under conditions of low oxygen. Affects 1:500 African-Americans				
	Duane Roth			Autologous HSC, genetically						and is common in Hispanic-Americans. Median survival is 42 years for				
	Disease Team			corrected ex vivo by lentiviral						males and 48 years for females. More than 80% of patients lack an HLA-	Primary: Safety, feasibility.			
	Therapy			vector mediated addition of a		Genetically				identical sibling donor. Project plan is genetic correction of adult bone	Secondary: Hematopoietic			
DR3-06945	Development			hemoglobin gene that blocks		Modified Cell				marrow hematopoietic cells by adding a novel therapeutic hemoglobin	Recovery; RBC function;			
Kohn, UCLA	III	Ph 1	Sickle Cell Disease	sickling	Blood Disorder	Therapy	\$13,935,441	HSC	Autologous		Quality of life assessment	7/1/14	6/30/18	
			ADA-SCID (severe	Autologous HSC, genetically corrected ex vivo by lentiviral		Genetically				In ADA-SCID allogeneic HSCTs from non-matched sibling donors are a high risk procedure. Efficacy of chronic enzyme replacement therapy is	Primary: Safety. Secondary: Efficacy, gene marking,			
CLIN2-09339	Clinical Trial	Ph2 -	combined immune	vector mediated addition of		Modified Cell				uncertain in the long-term. Preliminary data indicates that OTL-101 may				
Kohn, UCLA	Stage Projects	registration	deficiency)	human ADA gene	Blood Disorder	Therapy	\$20,000,000	HSC	Autologous	significantly improve outcomes compared to available therapies.	Registrational trial.	1/1/17	12/31/21	
	,	_		Ĭ .		''			, and		Primary: Safety and			
CLIN2-09504			X-SCID (X-linked	Autologous HSC, genetically		Genetically				Catastrophic immunodeficiency disorder caused by mutation in IL2RG;	feasibility. Secondary:			
Sorrentino, St.	Clinical Trial		severe combined	corrected ex vivo by lentiviral		Modified Cell				Without a curative transplant-based therapy, X-SCID is lethal typically in	Efficacy; gene marking;			
Jude's	Stage Projects	Ph 1/2	immunodeficiency)	vector mediated correction	Blood Disorder	Therapy	\$11,924,780	HSC	Autologous	first year of life.	immune reconstitution	4/1/17	3/31/22	
			6 - 44											
			Conditioning regimen for allogeneic HSC											
			transplantation for							Monoclonal antibody that targets CD117 and promotes engraftment of				
	Disease Team		SCID (Severe							hematopoietic stem cells. Could replace toxic conditioning regimens and	Safety. Dosing. Efficacy - HSC			
DR2A-05365	Therapy		Combined	MAb that depletes endogenous						enable chemotherapy-free transplants. Enabled donor cell HSC	engraftment, immune			
Shizuru, Stanford	Development	IND, Ph 1	Immunodeficiency)	HSC	Blood Disorder	Biologic	\$19,068,382			engraftment and cure of disease in an animal model of SCID.	reconstitution.	8/1/13	7/31/18	
										Primary immune deficiency due to Artemis gene. Most difficult to treat			-	
	Lata Stars		ART-SCID (Artemis-	A 4-1		C				by allogeneic hematopoietic stem cell transplantation (HSCT) due to				
CLIN1-08363,	Late Stage Preclinical		deficient severe combined	Autologous HSC, genetically corrected ex vivo by lentiviral		Genetically Modified Cell				increased sensitivity to alkylating agents and radiation. Autologous gene modified HSCT transplantation to overcome allogeneic stem cell				
Puck, UCSF	Preclinical Projects	IND	immunodeficiency)	vector mediated correction	Blood Disorder	Therapy	4,268,865	HSC	Autologous	transplant difficulty.	Obtain an active IND	5/1/16	10/31/17	
i dek, o coi	Late Stage	IIVD	immunodenciency	Autologous HSC, genetically	biood bisorder	Genetically	4,200,003	1150	Autologous	transplant difficulty.	Obtain an active IND	3/1/10	10/31/17	
CLIN1-10084,	Preclinical			corrected ex vivo by CRISPR-		Modified Cell				Gene editing using CRISPR-Cas9 technology has the potential to correct				
Porteus, Stanford	Projects	IND	Sickle Cell Disease	mediated correction	Blood Disorder	Therapy	\$5,194,431	HSC	Autologous	the sickle cell mutation.	Obtain an active IND	11/1/17	4/30/19	
										Transplant of blood-forming stem cells from a donor to a patient that has	5			
										received a milder, less toxic chemotherapy conditioning regimen that				
CLIN2-10847	Clinical Trial									removes some but not all of the patients diseased bone marrow stem cells. The donor cells are depleted of T immune cells to allow	Safety. Efficacy. Mixed			
Rosenthal, COH	Stage Projects	Ph 1	Sickle Cell Disease	Allogeneic haploidentical HSC	Blood Disorder	Cell Therapy	\$5,742,180	HSC	Allogeneic	engraftment without causing an immune reaction in the recipient.	chimerism.	04/1/18	4/30/22	
nosciiciai, com	Stage Frojects	2	Sienie Cen Discuse	/ mogenete improdenteed in se	Dioda Disoraci	centriciapy	\$3,742,100	1150	rinogeneie	Beta thalassemia is a severe form of anemia caused by mutations in the	CHITICITATI.	01/1/10	-1/30/22	
										hemoglobin gene. Patients require life-long blood transfusions and have a	a			1
										life expectancy of only 30-50 years. The Sangamo therapy takes a				1
										patient's own blood stem cells and, using a gene-editing technology	Safety and tolerability.			
CLIN2-11031				Autologous USC gonoticelle		Canatiaallu				called zinc finger nuclease (ZFN), provides a functional copy of the	Efficacy, change from			1
Conner.	Clinical Trial			Autologous HSC, genetically corrected ex vivo by zinc finger		Genetically Modified Cell				hemoglobin gene. The modified cells are given back to the patient which potentially will eliminate the need for chronic transfusions and the	and volume of RBC			1
Sangamo	Stage Projects	Ph 1/2	Beta Thalassemia	nuclease mediated correction	Blood Disorder	Therapy	\$8,000,000	HSC	Autologous	associated complications.	transfusions.	06/01/18	12/31/22	
		,-					+ 0,000,000			Artemis-deficient severe combined immunodeficiency is a genetic blood		00,00,00	,,	
										disorder in which even a mild infection can be fatal. It is the most difficult				
			Artemis-deficient	Autologous HSC, genetically		Genetically				form of the disease to treat. The UCSF team will genetically modify the	Multilineage engraftment			
CLIN2-10830	Clinical Trial	-1 - 4-	severe combined	corrected ex vivo by lentiviral	Blood Disorder	Modified Cell		HSC		patient's own blood stem cells with a functional copy of the Artemis gene				
Cowan, UCSF	Stage Projects	Ph 1/2	immunodeficiency	vector mediated correction	Blood Disorder	Therapy	\$12,000,000	HSC	Autologous	with the goal of creating a functional immune system.	reconstitution.	06/01/18	06/30/23	
HIV/AIDS				Autologous HSC transduced ex					1	T				
				vivo with a lentiviral vector										
DR1-06893				engineered to express an shRNA		Genetically					Safety. Efficacy - slow disease			
Symonds,				against CCR5 & a fusion		Modified Cell				Cal-1 increases the number of HIV-protected cells in the body. Uses	progression, mitigate need			
Calimmune	Disease Team I	Ph 1/2a	HIV/AIDS	inhibitor.	HIV/AIDS	Therapy	\$8,278,722	HSC	Autologous	shRNA to CCR5 and C46 to confer cellular resistance to HIV infection.	for ART.	2/1/13	7/31/16	
				Gene modified HSCs via a		_	Π							
				lentiviral vector that encodes a triple combination of HIV-		Genetically				Lentiviral vector encodes a triple combination of HIV-resistance genes	Cofety Officery immuni			
CLIN2-08289	Clinical Trial			resistance genes and a tCD25		Modified Cell				and a pre-selective marker. Vector transduced CD34+ cells will safely engraft, divide and differentiate in vivo into mature myeloid and	Safety. Efficacy - immune reconstitution, viral load and			
	Stage Projects	Ph 1	HIV/AIDS	pre-selective marker	HIV/AIDS	Therapy	\$7,402,549	HSC	Autologous	lymphoid cells.	HIV status.	9/1/15	8/31/19	
. Dedi, OC Davis	otoge i rojects	1112	IIIV/AID3	pre selective market	IIIV/AIDS	Петару	Ç1,102,313	1150	Autologous	nymphona cens.	v status.	2/1/12	0/31/13	
SP3A-07536						Genetically				Autologous hematopoietic stem cells gene edited ex vivo to eliminate				
Zaia, City of	Strategic			Autologous HSCs genetically		Modified Cell				expression of HIV entry co-receptor CCR5. Cells carrying disrupted CCR5	Safety. Efficacy -			
Hope	Partnership III	Ph 1	HIV/AIDS	modified to disrupt CCR5	HIV/AIDS	Therapy	\$5,583,438	HSC	Autologous	provide a renewable, long-lasting source of HIV-1 resistant immune cells.	engraftment.	4/1/15	3/31/19	
Hematologic C	ancers										1			
											Safety. Dosing. Follow on			
	Duane Roth									Cancer is a leading cause of death in CA. Many cancers resist current	trials will include other			
	Disease Team Therapy			Monoclonal antibody (anti-						therapies due to therapy-resistant cancer stem cells (CSCs). Discovered a protein, ROR1, present on CSCs but not on normal healthy cells.	cancers and will test cirmtuzumab alone or in			
DR3-06924	Development			ROR1) targeting CLL cancer	Hematologic					Developed an antibody, cirmtuzumab, that is specific for ROR1. Project	combination with other anti-			
Kipps, UCSD	III	Ph 1	CLL	stem cells	Malignancy	Biologic	\$4,179,600			plan is to treat chronic lymphocytic leukemia with cirmtuzumab.	cancer therapies.	6/1/14	11/30/17	
					<u> </u>					Cancer is a leading cause of death in CA. Many cancers resist current				
										therapies due to therapy-resistant cancer stem cells (CSCs). Discovered a				
										protein, ROR1, present on CSCs but not on normal healthy cells.				
CUN2 40405	Clinian Total			Monoclonal antibody (anti-	Hamas-I					Developed an antibody, cirmtuzumab, that is specific for ROR1. Project	Contrate design and according			
CLIN2-10192 Kipps, UCSD	Clinical Trial Stage Projects	Ph 1b/2a	B Cell Cancers	ROR1), combined with tyrosine kinase inhibitor (brutinib	Hematologic Malignancy	Biologic	\$18,292,674			plan is to treat chronic lymphocytic leukemia or mantle cell carcinoma with cirmtuzumab in combination with ibrutinib.	Evaluate dosing and complete response rate.	10/1/17	3/31/22	
rapps, UCSU	Stage 110jects	11110/20	D CEII CAIICEIS	ALLOSE HITHOREOF IDEULIND	ivialignaticy	PIOIORIC	710,272,014			with the desired in combination with bruting.	response race.	10/1/1/	2/21/44	

										CD34+ hematopoietic Stem and progenitor cells engraft into the bone				
								Expanded CD34+		marrow of patients, rebuilding a new blood and immune system after				
								stem and		appropriate preparation called myeloablation. The endothelial cells used				
				Matched cord blood derived				progenitor cells		in the co-culture are thought to aid the engraftment of the stem and				
			Hematologic	hematopoietic stem and				from cord blood		progenitor cells into the bone marrow via secretion of angiocrine factors.				
CLIN1-08342			malignancies	progenitor cells expanded by co-				and gene-		The remainder of the cord blood cells in the cell product also aid in the				
Davis, Angiocrine	Clinical Trial		including leukemia	culture with genetically	Hematologic			modified		engraftment as well as provide anti-viral and anti-bacterial effects after				
	Stage Projects	IND	and lymphoma	modified endothelial cells.	Malignancies	Cell Therapy	\$3,797,117	endothelial cells	Allogeneic	transplantation.	Obtain an active IND	4/1/16	12/1/17	
							40).0.,		· megenere	CD34+ hematopoietic Stem and progenitor cells engraft into the bone		., _,	,-,-:	
								Expanded CD34+		marrow of patients, rebuilding a new blood and immune system after				
								stem and		appropriate preparation called myeloablation. The endothelial cells used				
				Matched cord blood derived				progenitor cells		in the co-culture are thought to aid the engraftment of the stem and				
CLIN2-10386			Hematologic	hematopoietic stem and				from cord blood						
Finnegan,			malignancies	progenitor cells expanded by co-				and gene-		progenitor cells into the bone marrow via secretion of angiocrine factors. The remainder of the cord blood cells in the cell product also aid in the				
Angiocrine	Clinical Trial		including leukemia	culture with genetically	Hematologic			modified						
		Ph 1b	and lymphoma	modified endothelial cells cells.		Call Thornas	\$5,000,000	endothelial cells	Allegensia	engraftment as well as provide anti-viral and anti-bacterial effects after	Safety.	10/01/17	12/31/21	
Bioscience	Stage Projects	PII 10	and lymphoma	modified endotriellal cells cells.	Malignancies	Cell Therapy	\$5,000,000	endotnellal cells	Allogeneic	transplantation.	Salety.	10/01/17	12/31/21	
										ADCs are intended to target and kill only the target cancer cells and				
										spare healthy cells. ADCs are composed of an antibody linked to a				
										cytotoxic payload or drug. After the ADC binds to the target cell and is				
										internalized, the cytotoxic drug is released and kills the cancer cell. CLL1				
CLIN1-09776	Late Stage									is highly expressed on leukemia stem cells but not on normal cells.				
Junutula,	Preclinical			Anti-CLL1 antibody linked to a	Hematologic	Antibody-drug				Binding of the anti-CLL1 ADC results in targeted killing of leukemia stem				
Cellerant	Projects	IND	AML	DNA binding payload.	Malignancy	conjugate (ADC)	\$6,863,755			cells.	Obtain an active IND	8/1/17	1/31/19	
				V	· /	, , , ,				The product is an ex vivo expanded hematopoietic stem and progenitor				
										cell therapy capable of providing bridging (temporary) hematopoietic	Evaluate effect on the rate of			
								Expanded CD34+		support to protect patients against infections. It is intended for AML	infections associated with			
			Chemotherapy-	Ex-vivo expanded Umbilical cord			1	stem and		cancer patients undergoing chemotherapy that results in neutropenia.	Chemotherapy-Induced			
CLIN2-09574	Clinical Trial			blood hematopoietic stem and	Hematologic			progenitor cells		concer patients andergoing enemotierapy that results in neutropenia.	Neutropenia in AML patients			
Delaney, Nohla	Stage Projects	Ph 2	in the AML setting		Malignancy	Cell Therapy	\$6,922,109	from cord blood	Allogeneic		and determine optimal dose	11/01/17	11/30/19	
Delatiey, Notila	Stage Frojects	FIIZ	III the Aivit setting	progenitor cens	ivialighancy	Cell Therapy	30,522,105	ITOTIT COLU DIOOU	Allogerieic	CD47 is overexpressed on cancer and cancer stem cells. It stops	and determine optimal dose	11/01/17	11/30/15	
										phagocytic macrophages from eliminating these abnormal cells by				
										delivering a potent "don't eat me" signal. Hu5F9-G4 is a humanized	Phase 1b trial; determine			
											optimal dose; safety and			
CLIN2-10144	Clinical Trial			Anti-CD47 monoclonal antibody	Hematologic						efficacy in combination with			
										me" signal, thereby enabling macrophage-mediated phagocytosis of the			- ((
Chao, 47Inc	Stage Projects	Ph 1b	AML	in combination with azacitidine	Malignancy	Biologic	\$5,000,000			cancer cells.	azacitidine	11/01/17	5/31/21	
										Viral infection can lead to fatal complications in patients with weakened				
										immune systems resulting from chemotherapy, bone marrow or cord				
										blood transplant, and other forms of inherited or acquired				
										disorders. Donated virus-specific T-cells will be matched to the patient's				
	Clinical Trial			Partially HLA-matched virus-	HSC transplant-					immune system to help boost their ability to fight off these viruses and to				
Pulsipher, CHLA	Stage Projects	Ph 1/2	Viral infection	specific T cells	related infection	Cell Therapy	\$4,825,587	T Cell	Allogeneic	provide longer-term anti-viral protection.	Safety and efficacy.	12/01/17	11/30/22	
										MM is a treatable but typically incurable plasma cell malignancy that is				
										usually fatal. Currently available therapeutic options have limitations in				
										efficacy and are generally associated with significant toxicity and				
										complications. Hence, there remains an unmet need for effective and				
										durable MM therapy. CAR-T immunotherapy is emerging as an important				
										potential therapeutic approach for cancer, including MM. Being stem cel				
CLIN2-10395	Clinical Trial				Hematologic						Determination of maximum			
Spear, Poseida	Stage Projects	Ph 1	Multiple myeloma	CAR-T	Malignancy	Cell Therapy	\$19,997,927	CAR-T	Autologous	memory CAR-T cells, the treatment could potentially produce long term	tolerated dose.	12/01/17	12/31/21	
Spear, roseida	Stage Frojects	1112	ividicipie mycioma	CAIX-1	ivialignaticy	Cell Therapy	J15,551,521	CAIC-I	Autologous	control. Chimeric Antigen Receptor (CAR) T Cell Therapy is an innovative cancer	tolerated dose.	12/01/17	12/31/21	
										therapy with very encouraging response rates in patients. The therapy				
							1	1		works by isolating a patient's own T cells and then genetically				
							1	1		engineering them to recognize a target protein on the surface of cancer				
							1	1		cells, triggering their destruction. In some patients with B cell leukemias,				
							1	1		however, cancer cells are able to remove the target protein to escape				
										detection by the modified T cells, thereby causing the cancer's				
										reoccurrence. Stanford researchers have developed an engineered T cell				
CLIN2-10846							1	1		designed to recognize not one, but two, cell surface proteins on cancer				
CLIN2-10846 Mackall.	Clinical Trial				Homotologia					cells with the aim of overcoming loss of the target protein and enhancing				
		Dh. 4	D Call Comme	CAR T	Hematologic	Cell There		C42 T	A	a patient's response to the therapy and reducing the potential for		C /4 /4 O	F /24 /22	
Stanford	Stage Projects	Ph 1	B Cell Cancers	CAR-T	Malignancy	Cell Therapy	L	CAR-T	Autologous	Lealance .	1	6/1/18	5/31/22	
Solid Cancers														
										There are few options for patients whose cancers have metastasized due				
	Disease Team		Advanced tumors	Autologous HSCs and T cells		Genetically	1	1		to resistance to current therapies. Engineering of patient's own blood-	feasibility. Secondary:			
DR2A-05309	Therapy		(Synovial Sarcoma,	genetically modified to express		Modified Cell				forming stem cells to produce a continual supply of the immune system	Persistence of gene-marked			
Ribas, UCLA	Development	IND, Ph 1		an anti-tumor T cell receptor.	Solid Tumor	Therapy	\$19,999,563	HSC	Autologous	cell to attack cancer.	anti-cancer immune cells	4/1/14	11/30/20	
	Duane Roth					1			<u> </u>	Solid tumors are the most prevalent form of cancer, and are a major	Determination of maximum			
	Disease Team			Small molecule mitotic inhibitor			1	1		cause of death worldwide. The small molecule being developed inhibits	tolerated dose and			
	Therapy			targeting serine/threonine						the activity of a protein required in tumor cell lines and cancer stem cells				
DR3-07067	Development			kinase to eliminate both tumor			1	1		(CSC). It is hypothesized that inhibiting the CSC can prevent tumor	Safety. PK. Efficacy in solid			
Slamon, UCLA	III	Ph 1	Solid Tumor	cells and cancer stem cells	Solid Tumor	Small Molecule	\$6,924,317			regrowth after treatment.	cancers.	5/1/14	4/30/18	
Samon, UCLA		1111	Jona Turrior	consumu cancer sterri teris	Jona Fullion	Jinan Molecule	JU,J24,31/		 	CD47 is overexpressed on cancer and cancer stem cells and prevents	curretts.	3/1/14	7/30/10	
										their elimination by phagocytic macrophages by delivering a potent				
							1	1						
										"don't eat me" signal. Hu5F9-G4 is a humanized monoclonal antibody		J		
										(mAb) that binds to CD47 and blocks its interaction with its receptor,				
										thereby enabling phagocytosis of cancer cells. Anti-CD47 is highly				
CLIN2-09577	Clinical Trial			Anti-CD47 monoclonal antibody						synergistic in combination with other anti-cancer therapies including	Safety. Dosing. Efficacy -			
Chao, 47Inc	Stage Projects	Ph1b/2	Solid Tumor	+ cetuximab	Solid Tumor	Biologic	\$10,234,048	Ab		tumor-targeting mAbs such as cetuximab.	objective response rate (ORR)	1/1/17	12/31/21	

Company Comp															
Discription Control											Gliobastoma (GBM) is lethal with 5 year survival rate is only 5.5%. CAR-T				
Columbia															
Page	CUND 40240	CD-11-1-T-11-1			T III										
100 100			DI. 4	Mallana Chann		Callatana		642 752 054	CAD T				44/4/47	40/24/24	
Line Supp. Unit S	Brown, COH	Stage Projects	PN 1	Malignant Glioma	cancer stem cells	Solid Lumor	Inerapy	\$12,/53,854	CAK-I	Autologous	EFF516 drug product is comprised of patural killer (NK) cells derived from a	and biological activity	11/1/1/	10/31/21	
This could be a service of the country of the count															
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CARS-2016 OS-2017 To 1911 A Pro-part of color of the colo	Abbot, Fate	Projects	IND		iPS-derived NK cells	Solid Tumor	Cell Therapy	\$4,000,000	iPS-NK	Allogeneic		File an IND	04/1/18	6/30/19	
Sign and the control of the control		,					.,								
CILING 2017-Last Part Notice of Trial Notice											cancer (NSCLC) is between 1-10%. UCLA researchers are genetically				
Giological Discorption Security of the complete control of the complete cont															
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And A September 1997 and A Sep															
INCOMENSATION TERROPEUTICS WERE Disorders Control Training Contr				Non-small cell lung											
DEAL PLANS OF THE PROPERTY OF	Dubinett, UCLA	Stage Projects	Ph 1	cancer	pembrolizumab	Solid Tumor	Cell Therapy		DC vaccine	Autologous	system.	dose in lung cancers.			
DECASE Train DE	ORGAN SYSTEM	MS THERAPEU	TICS												
Disease Team Di	one Disorders	s													
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CIND 2035 CINCID 19 PL Controllary from the record of the	artilage Disor	ders					1			1					
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CLIN2-20388 UNIVERSITY OF CONTROL OF THE PLAN OF THE P											MADA - do - ab-a to - ab-a				
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Salesing, California Surviva August Disorders Phil Cartilage injuries Obordrootes Cartilage Disorder Sales	CUND 10200			Octoparthritis											
P2A-6575 Deser Team Secretary Part Survey Control of Secretary Par		CLINS	Ph 1			Cartilage Disorder	Small Molecule	\$8 447 522					12/01/17	11/30/20	
B2A-05735 Disease Team after improcridat infarction/Circinic Disease Team after improcridat Disease Team after improcridat Disease Cell Therapy 513,782,135 CDC Allogened Disease Team Disease Di				carcilage injuries	chondrocytes	Cartilage Disorder	Sitiali Wolecule	30,447,323		1	noperally slowing down or event latting the progression of the disease.		12/01/17	11/30/20	
DRZA 65735 Disease Team and causes reduction in cardas cars are greated in patients with heart failure in a progressive disease with a high risk of mortality. Therapy Therapy Ph 2 heart failure is a progressive disease with a high risk of mortality. Allogenetic cardiogabere derived cells (DCL) reduce scar are after heart attack in the progressive disease with a high risk of mortality. Scordiary-Assess for other transfer in March 1997 in a progressive condition with no cardas cars are after heart attack in the progressive condition with no cars survival and progressive condition with no cars survival and progressive condition with no cars survival or heart stallure. Secondary-Assessive supervised cells (DCL) reduce scar are after heart attack in multiplicate development in Pull in a progressive condition with no cars survival or heart stallure. Secondary-Assessive supervised cells (DCL) reduce scar are as a few heart stallure and causes reduction and indicate from the cars survive and scar service development. Secondary-Assessive supervised cells (DCL) reduce scar are as a few heart stallure and causes from the cars survive and scar services. Secondary-Assessive supervised cells (DCL) reduce scar are as a few heart stallure. Secondary-Assessive supervised cells (DCL) reduce scar are as a few heart stallure. Secondary-Assessive supervised cells (DCL) reduce scar are as a few heart stallure. Secondary-Assessive supervised cells (DCL) reduce scar are as a few heart stallure. Secondary-Assessive supervised cells (DCL) reduce scar as a self-the heart stallure. Secondary-Assessive supervised cells of the scar scar as a few heart stallure. Secondary-Assessive supervised cells of the scar scar as a few hea	ardiovascular	& vascular Di	soraers		T	I	T .			ı					
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DR2A-05736 Disease Team Infection/Cytorius Allogeneic cardiosphere derived Cardiovascular Disease Cell Therapy Fig. 2 Diseas				Heart dysfunction											
imith, Caprico (nc. Development Inc. Dev	DR2A-05735	Disease Team									Heart failure is a progressive disease with a high risk of mortality.				
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Clinical Trial Philay		1 /	Ph 2				Cell Therapy	\$19.782.136	CDC	Allogeneic			1/1/13	12/31/17	
CLINZ-093444 Lewis, Cedary- Sinal Stage Projects Ph1a/b Pulmonary Arterial Allogeneic cardiosphere derived cells Vascular Disease Cell Therapy 57,354,772 CDC Allogeneic dyndroction. CLINZ-08334 Accheina, Clinical Trial Gaption of Ph1a/b Duchene muscular dystrophy cells Ph 2 cardiomyopathy administration and induce regeneration of Allogeneic Cardiosphere derived Cardiomyopathy attents. Cardiosphere-derived cells (DCs) decrease myocardial fibrois, improve cardiac function and induce regeneration of inclinical trial possible. The cell Therapy 53,376,259 CDC Allogeneic Cell Therapy 54,474 CDC Cell Ther							.,,,	, ,, , , , , , , , , , , , , , , , , , ,							
Lewis, Cedars- Sinal Sin											cure, survival is poor. Cardiosphere-derived cells (CDCs) decrease wall				
Sage Projects Ph1a/b Hypertension cells Vascular Disease Cell Therapy \$7,354,772 CDC Allogeneic Optimizers and CLINZ-08344 CLINZ-08344 CLINZ-08344 CLINZ-08344 Clinical Trial Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cell Congression of Capricor, Inc. Sage Projects Congression of Capricor, Inc. Sage Projects Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Capricor, Inc. Sage Projects Ph 2 cardiomyopathy Cells Congression of Cardiomyopathy Cells Congression of	CLIN2-09444										thickening of lung small blood vessels in preclinical studies. Improvement	Primary: Safety. Secondary:			
CLIN2-08334 Ascheim, Capitor, Inc. Stage Projects Disease Team Therapy Wu, Starford Disease Team Us, Via Cyter Us, Via C	Lewis, Cedars-	Clinical Trial		Pulmonary Arterial	Allogeneic cardiosphere derived						in lung blood vessels is expected to reduce cardiac right ventricular				
CLINZ-08334 Ascheim, Caprisor, Inc. Disease Team Therapy Wu, Starford Development IND Ischemic heart failure Allogeneic heESC-derived pancreatic cell roughents Allogeneic heESC-derived pancreatic cell roughents Allogeneic hese development Allogeneic hese complications/Metabolic Disage Accelerated Comparability Ap1-08039 Accelerated Comparability Ap1-	Sinai	Stage Projects	Ph1a/b	Hypertension	cells	Vascular Disease	Cell Therapy	\$7,354,772	CDC	Allogeneic	dysfunction.	of right ventricular function.	1/1/17	4/30/21	
CLINZ-08334 Ascheim, Capricor, Inc. Disease Team Therapy IND Uschemic heart failure Lardinosphere-derived cells (CDC), decrease Mystrophy Allogeneic cardiosphere-derived cells (CDC), decrease Mystrophy Allogeneic cardiomandeds of DMD. Allogeneic hESC-derived Dispotential park of the earth muscle in preclination of medical models of DMD. Allogeneic hESC-derived Dispotential read-generic in informative groups and the elderly. Current therapy is self-administration of psinin people worldwide. Dispotential read-generic and invasion people worldwide. Dispotential read-g															
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Disease Team Therapy Uniform September 1 Disease Team DR2A-05394 Disease Team Therapy Uniform September 2 Disease Team DR2A-05394 Development 1 IND Ischemic heart failure (ardiomyocytes													. /. /		
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DRZA-O5394 Therapy Development IND Ischemic heart failure Cardiovascular Disease Cell Therapy S19,060,330 CM Allogeneic Improve cardiac function in preclinical models of heart failure. First-in-human trial in heart failure patients. 4/1/13 3/31/18 IND Ischemic heart failure Cardiovascular Disease Cell Therapy S19,060,330 CM Allogeneic Improve cardiac function in preclinical models of heart failure. First-in-human trial in heart failure patients. 4/1/13 3/31/18 IND Ischemic heart failure Cardiovascular Disease Cell Therapy S19,060,330 CM Allogeneic Improve cardiac function in preclinical models of heart failure. First-in-human trial in heart failure patients. 4/1/13 3/31/18 IND Ischemic heart failure Cardiovascular Disease Cell Therapy S19,060,330 CM Allogeneic Improve cardiac function in preclinical models of heart failure. First-in-human trial in heart failure patients. 4/1/13 3/31/18 IND Ischemic heart failure Cardiovascular Cell Therapy S19,060,330 CM Allogeneic Improve cardiac function in preclinical models of heart failure. First-in-human trial in heart failure patients. 4/1/13 3/31/18 IND Ischemic heart failure Cardiovascular Cell Therapy S19,060,330 CM Allogeneic Coll Therapy Current therapy S19,060,330 CM Allogeneic Coll Therapy Current therapy S19,060,330 CM Allogeneic Cell Therapy Current therapy S19,060,330 CM Allogeneic Cell Therapy Current therapy S19,060,330 CM Allogeneic Cell Therapy Cell Th		Dicease Team									F 7 million Americans suffer from heart failure, and the and stone 2	Obtain an active IND for a			
Wu, Stanford Development IND Ischemic heart failure cardiomyocytes Disease Cell Therapy \$19,060,330 CM Allogeneic improve cardiac function in preclinical models of heart failure. failure patients. 4/1/13 3/31/18 Apt-08039	DB3V-0E304				Allogeneic hESC dorived	Cardiovaccular									
Diabetes Methodic Diabetes mellitus affects 370 million people worldwide.			IND	Ischemic heart failure			Cell Therany	\$19,060,330	CM	Allogeneic			4/1/12	3/31/19	
Diabetes mellitus affects 370 million people worldwide. Disproportionately affects certain minority groups and the elderly. Current therapy is self-administration of insulin. Diabetes costs in CA are tens of billions of dollars each year. Directed differentiation of embryonic stem cells to pancreatic precursor cells. Project plan is transplantation of pancreatic precursor cells. Project plan is transplantation of pancreatic precursor cells that generate functional slet itsus in vivo that device implanted device implanted device implanted and evice implanted device implanted and the elderly. AP1-08039 Accelerated Comparability Trial Diabetes: Type 1 subcutaneously Endocrine Disorder Combination 516,603,160 Diabetes: Type 1 primary: Safety. Secondary: Efficacy. Combination Tolliden with T1D face lifelong struggles with glycemic control and, despite careful management, an increased risk of severe complications. No therapy that maintains or restores pancreatic beta islet cell function is currently approved. Evidence indicates that regulatory T-cells (T-regs) maintain immune balance at least in part by Primary: Safety. Secondary:				rochemic near crailure	jear alomyocytes	Disease	Сентиетару	¥13,000,330	CIVI	Allogerieit	propriese cardiae function in precimical models of fleat claim.	панаге расісно.	7/1/13	3/31/10	
AP1-08039 Accelerated phanceatic cell progenitors in a device implanted panceatic cell progenitors in a device implanted phanceatic cell progenitor sin a device implanted can respond to insulin levels in a more physiological manner than direct can respond to insulin replacement. Allogeneic insulin replacement. Allogeneic careful management, an increased risk of severe complications. No therapy that maintains or restores pancreatic beta sidet cell function is currently approved. Evidence indicates that regulatory T-cells (T-regs) maintain immune balance at least in part by Primary: Safety. Secondary:	napetes & Cor	iipiications/M	ecapoiic				T				Diabetes mellitus affects 370 million people worldwide.	T	1		
AP1-08039 Accelerated Comparability Trial Diabetes: Type 1 Subcutaneously Endocrine Disorder Cultivacy, Via Cyte Inc. AP1-08039 Accelerated Comparability Trial Diabetes: Type 1 Subcutaneously Endocrine Disorder Cultivacy, Via Cyte Inc. AP1-08039 Accelerated Comparability Trial Diabetes: Type 1 Subcutaneously Endocrine Disorder Cultivacy, Via Cyte Inc. AP1-08039 Accelerated Comparability Trial Diabetes: Type 1 Subcutaneously Endocrine Disorder Cultivacy, Via Cyte Inc. AP1-08039 Accelerated Comparability Trial Diabetes: Type 1 Subcutaneously Endocrine Disorder Cultivacy, Via Cyte Inc. AP1-08039 Accelerated Comparability Trial Diabetes: Type 1 Subcutaneously Endocrine Disorder Cultivacy, Via Cyte Inc. AP1-08039 Accelerated Comparability Cultivacy Cell Therapy, Cell Therapy, Cell Therapy, Cell Therapy, Cell Therapy, Cell Therapy, Call Cyte Cyte Shillons, Via Cyte Inc. AP1-08039 Accelerated Comparability Cultivacy Cell Therapy, Cell Therapy, Cell Therapy, Cell Therapy, Call Trial Cultivacy Cell Therapy, Via Cyte Inc. AP1-08039 Accelerated Comparability Cell Therapy Cell Therapy, Cell Therapy, Cell Therapy Comparability Cultivacy Cell Therapy															
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oyt, ViaCyte Inc. Pathway I Trial Diabetes: Type 1 subcutaneously Endocrine Disorder Combination \$16,603,160 progenitor Allogeneic insulin replacement. CliNidra myth T1D face lifelong struggles with glycemic control and, despite careful management, an increased risk of severe complications. No therapy that maintains or restores pancreatic beta islet cell function is currently approved. Evidence indicates that regulatory T-cells (T-regs) maintain immune balance at least in part by Primary: Safety. Secondary:	AP1-08039	Accelerated	Comparability				Cell Therapy.								
Children with T1D face lifelong struggles with glycemic control and, despite careful management, an increased risk of severe complications. No therapy that maintains or restores pancreatic beta islet cell function is currently approved. Evidence indicates that regulatory T-cells (T-regs) maintain immune balance at least in part by Primary: Safety. Secondary:	oyt, ViaCyte Inc.			Diabetes: Type 1		Endocrine Disorder		\$16,603,160		Allogeneic			1/1/15	12/31/17	
despite careful management, an increased risk of severe complications. No therapy that maintains or restores pancreatic beta islet cell function is currently approved. Evidence indicates that Losordo, Clinical Trial Autologous ex vivo expanded regulatory T-cells (T-regs) maintain immune balance at least in part by Primary: Safety. Secondary:	, ,			7,000				,,	,		Children with T1D face lifelong struggles with glycemic control and,	· ·			
LIN2-09730 Losordo, Clinical Trial Autologous ex vivo expanded Scurrently approved. Evidence indicates that regulatory T-cells (T-regs) maintain immune balance at least in part by Primary: Safety. Secondary:											despite careful management, an increased risk of severe complications.				
CLIN2-09730 Losordo, Clinical Trial Autologous ex vivo expanded approved. Evidence indicates that regulatory T-cells (T-regs) maintain immune balance at least in part by Primary: Safety. Secondary:											No therapy that maintains or restores pancreatic beta islet cell function				
Losordo, Clinical Trial Autologous ex vivo expanded regulatory T-cells (T-regs) maintain immune balance at least in part by Primary: Safety. Secondary:											is currently				
Caladrius Stage Projects Ph 2 Diabetes: Type 1 polyclonal regulatory T cells Endocrine Disorder Cell Therapy \$12,211,255 T-reg Autologous control of differentiation of multipotent progenitor/stem cells. Efficacy. 4/1/17 7/31/20	t a consider	Clinical Trial													
	,							C12 211 2FF	T	I Autologous	Icontrol of differentiation of multipotent progenitor/stem cells	Intition and			

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CLIN1-08671, D'Amour, Viacyte	Clinical Trial Stage Projects	IND	Diabetes: Type 1	hESC-derived pancreatic progenitor cells delivered in a device that allows direct vascularization of the cell therapy	Endocrine Disorder	Cell Therapy, Combination	\$3,984,164	Pancreatic endocrine progenitor	Allogeneic	healthy levels and save their lives.	Obtain an active IND and trial start up	8/1/16	7/31/17	
				hESC-derived pancreatic progenitor cells delivered in a						There are over 100,000 people in the US with type 1 diabetes so severe that they are at constant risk of hospitalization and/or death. Within				
				device that allows direct				Pancreatic		months after administration, this product could provide a source of insulin				
CLIN2-09672,	Clinical Trial			vascularization of the cell		Cell Therapy,		endocrine			Primary: Safety and			
Foyt, Viacyte	Stage Projects	Ph 1/2	Diabetes: Type 1	therapy	Endocrine Disorder	Combination	\$20,000,000	progenitor	Allogeneic	healthy levels and save their lives.	Tolerability	10/1/17	12/31/20	
Kidney Disorde	ers		1									1		
CLIN2-08938, Lawson, Humacyte, Inc.	Clinical Trial Stage Projects	Ph 3	Renal dialysis	A Human Acellular Vessel in Patients Needing Renal Replacement Therapy: A Comparison with ePTFE Grafts as Conduits for Hemodialysis (HUMANITY)	Endocrine Disorder	Device	\$9,999,528		Allogeneic		Primary: Safety and tolerability, rate of patency of the graft and rate of interventions needed to restore patency.	8/1/16	7/31/21	
CLIN2-09688, Lawson,	Clinical Trial	21.2	Donal districts	A Human Acellular Vessel in Patients Needing Renal	Endourine Discorder	B	ć44.003.0CF		Alleganis	Synthetic vascular access grafts for hemodialysis in kidney patients are associated with thrombosis, infection and abandonment. Human Acellular Vessel (HAV) is made of extracellular matrix from human		44 /04 /47	2/24/22	
Humacyte, Inc.	Stage Projects	Ph 3	Renal dialysis	Replacement Therapy.	Endocrine Disorder	Device	\$14,082,865		Allogeneic	smooth muscle cells, similar in composition and structure to native tissue. Unmet medical need for allogeneic kidney transplants. Need to eliminate	A Comparison with AV Fistula	11/01/17	3/31/22	_
CLIN2-09439 Strober, Stanford	Clinical Trial Stage Projects	Ph 1	Transplant tolerance	Donor CD34+ and CD3+ T cells for immune tolerance to HLA mismatched kidney donors.	Immune tolerance, transplant	Cell Therapy	\$5,069,674	HSC	Allogeneic	chronic rejection/allograft nephropathy that causes gradual loss of kidney (50% of graft loss by 12-15 years in HLA mismatched recipients). Eliminate the lifelong need for anti-rejection drugs that have numerous	Primary: Safety. Secondary: Preliminary efficacy.	2/1/17	1/31/21	
Clin1-09230	Clinical Trial			Ex vivo transduced autologous human CD34+ hematopoietic stem cells for treatment of		Genetically Modified Cell				Cystinosis is caused by a genetic mutation that allows an amino acid, cystine, to build up in and damage the kidneys, eyes, liver, muscles, pancreas and brain of children and adults. Current therapy only delays progression of the disease, has severe side effects and people taking it still require kidney transplants, and develop diabetes, neuromuscular disorders and hypothyroidism. The goal is to take blood stem cells from people with cystinosis, genetically-modify them to remove the mutation, then return them to the patient to create a new, healthy, blood system				
Cherqui, UCSD	Stage Projects	IND	Cystinosis	cystinosis	Cystinosis	Therapy	\$ 5,273,189	HSC	Autologous	free of the disease.	Obtain an active IND	11/1/16	10/31/18	
CLIN2-10411	Character 1			Donor CD34+ and CD3+ T cells						Unmet medical need for allogeneic kidney transplants in HLA-matched				
Deitcher, Medeor	Clinical Trial Stage Projects	Ph 3	Transplant tolorance	for immune tolerance to HLA mismatched kidney donors.	Immune tolerance, transplant	Cell Therapy	\$18,763,585	HSC	Allogeneic	patients. Eliminate the lifelong need for anti-rejection drugs that have numerous cumulative side effects.	Efficacy and Safety	3/1/18	12/31/22	
iviedeol	stage riojects	FII 3	mansplant tolerance	mismatched kidney donors.	transplant	сен гнегару	210,703,383	ri3L	Milogeneic	numerous cumulative side effects.	Enicacy and Safety	3/1/10	12/31/22	